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November 30, 2015

**SUBMITTED ELECTRONICALLY VIA ECFS**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, NW  
Washington, DC 20554

Re: ***Wireless Telecommunications Bureau Seeks Comment on Requests of Aviat Network and CBF Networks, Inc. d/b/a Fastback Networks for Waiver of Certain Antenna Requirements in the 71-76 and 81-86 GHz Bands; WT Docket 15-244; Reply Comments of T-Mobile USA, Inc.***

Dear Ms. Dortch:

T-Mobile USA, Inc. (“T-Mobile”)<sup>1/</sup> hereby submits these reply comments in the above referenced proceeding in support of others who urge the Commission to waive certain rules governing antenna specifications in the 71-76 and 81-86 GHz bands (the “70/80 GHz bands”).<sup>2/</sup> Waiver of the rules is appropriate to promote more intense use of the 70/80 GHz bands and to meet the developing needs of data-intense 5G networks.

As the Commission noted in the *Public Notice* soliciting comments and reply comments in this proceeding, T-Mobile previously expressed its support of Aviat’s initial request. With this letter, T-Mobile reiterates that support and extends it to the waiver request from Fastback Networks. While the Fixed Wireless Communications Coalition submitted a request to amend the rules governing antenna standards for the 70/80 GHz bands, that process may take several additional years, potentially delaying future developments in those bands in the interim. Instead of waiting to complete a rulemaking in this proceeding, the Commission should grant the requested

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<sup>1/</sup> T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

<sup>2/</sup> See *Wireless Telecommunications Bureau Seeks Comment on Requests of Aviat Networks and CBF Networks, Inc. d/b/a Fastback Networks for Waiver of Certain Antenna Requirements in the 71-76 and 81-86 GHz Bands*, Public Notice, WT Docket No. 15-244, DA 15-1166 (rel. Oct. 13, 2015); Aviat Networks, Request for Waiver, WT Docket No. 15-244 (filed Apr. 5, 2013); Aviat Networks, Amendment to Request for Waiver, WT Docket No. 15-244 (filed Mar. 24, 2014); Letter from Henry Goldberg and Jonathan L. Wiener, Counsel to Fastback Networks, to Marlene H. Dortch, FCC, WT Docket No. 15-244 (filed June 19, 2015).

waivers. Indeed, the Commission has granted waivers of its rules in the past, prior to the adoption of new rules that ultimately superseded those that were waived.<sup>3/</sup>

Waiver of the rules would recognize the changed circumstances since the Commission initially adopted rules governing the 70/80 GHz bands. There has been comparatively limited use of the band. As T-Mobile noted previously, since 2005, there have been only approximately 5,500 links registered for the 70/80 GHz bands (along with the 92-95 GHz band).<sup>4/</sup> By waiving the specified rules, the Commission can promote more robust use of the spectrum, without denigrating any co-channel or adjacent band users. Promoting more intense spectrum use is consistent with Commission policy.<sup>5/</sup> T-Mobile disagrees with Dash Networks Corporation, which appears to suggest that the spectrum be reserved for the uses initially contemplated and asks the Commission to direct Aviat to use the 92-95 GHz band.<sup>6/</sup> However, limiting the use of spectrum to particular applications is inconsistent with Commission policy and spectrum should be available to be used as flexibly as technically feasible.<sup>7/</sup>

The increased flexibility that the rules would provide is important to meet the developing needs of carrier networks. As the Commission has observed, networks will increasingly use small cells

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<sup>3/</sup> See, e.g., *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, et al.*, Report and Order, 30 FCC Rcd. 9551, ¶¶ 94-95 (2015) (explaining how the Commission granted a waiver to permit unlicensed wireless microphone operations in the television bands under Part 15 and adopting new Part 15 rules for such operations, superseding the waiver).

<sup>4/</sup> See Letter from Kathleen O'Brien Ham, Vice President, Federal Regulatory Affairs, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 15-244, at 2 (filed Mar. 12, 2015).

<sup>5/</sup> See, e.g., *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd. 3959, 3961-62 (2015) (adopting a new framework for spectrum in the 3.5 GHz band to promote more intense, efficient spectrum use).

<sup>6/</sup> See Dash Networks Corporation, Comments on 15-244, WT Docket No. 15-244, at 20 (filed Nov. 12, 2015) (“Dash Networks recommends . . . that [the FCC] advise Aviat to reconsider filing for the antenna waiver in the 92-95 GHz band.”).

<sup>7/</sup> See *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communication Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Report and Order and Second Report and Order, 25 FCC Rcd. 11710, ¶ 28 (2010) (“[C]onsistent with the Commission's long-standing policies of maintaining technical and service neutrality in its rules and allowing flexible spectrum use by licensees, we adopt rules that remain technology neutral instead of adopting rules that mandate the use of a particular technology or service.”). See also *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd. 14165, ¶ 133 (2004) (“Providing users with the flexibility to deploy the technologies of their choice is consistent with the Commission's goal of allowing licensees to operate technology independent. Accordingly, we will not mandate any particular technology in the band.”).

to support customer traffic and efficiently reuse spectrum.<sup>8/</sup> Because of the proliferation of small cells, additional backhaul capacity will be required. Backhaul with high-bandwidth capacity will be particularly important as customer traffic increasingly migrates to video and other data-intensive applications.<sup>9/</sup> The 70/80 GHz bands are well suited to support backhaul in an ubiquitous, small cell architecture – with light, unobtrusive antennas – if the Commission waives its rules. Similarly, and as Radio Frequency Systems notes, the equipment that would be permitted under the requested waiver “is part of the small cell revolution that will power 5G and bring connectivity closer to the user...[g]rant of the Waiver Requests will enable wireless backhaul capabilities proportionate in size to the small cell base stations.”<sup>10/</sup>

Accordingly, T-Mobile requests that the Commission grant the waiver requests submitted by Aviat and Fastback in order to speed the deployment of small cells operating with equipment in the 70/80 GHz bands.

Respectfully submitted,

/s/ Steve B. Sharkey

Steve B. Sharkey  
Chief Engineering and Technology Policy, Federal  
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<sup>8/</sup> See *Wireless Telecommunications Bureau Seeks Comment on Revising the Historic Preservation Review Process for Small Facility Deployments*, Public Notice, 30 FCC Rcd. 8160, 8160 (2015) (describing how wireless providers are deploying small cell and Distributed Antenna Systems (“DAS”) technologies to meet increasing demand for greater wireless bandwidth).

<sup>9/</sup> See Thomas K. Sawanobori and Dr. Robert Roche, *Mobile Data Demand: Growth Forecasts Met, Significant Growth Protections Continue to Drive the Need for More Spectrum*, at 5 (June 22, 2015), available at <http://www.ctia.org/docs/default-source/default-document-library/062115mobile-data-demands-white-paper.pdf> (“Data consumption attributable to mobile video grew over 3,700 percent from 2009 to 2014, and it is projected to grow nearly *nine times* above 2014 levels.”).

<sup>10/</sup> See Comments of Radio Frequency Systems, WT Docket No. 15-244, at 2 (filed Nov. 12, 2015).